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PATENT

REISSUE APPLICATION DECLARATION AND POWER OF ATTORNEY

ATTORNEY'S DOCKET NO. M1653-109

We, Niro NAKAMICHI and Yasuhiro NOGUCHI as joint inventors along with Makoto HARA, who refuses to join in this application for a reissue of patent number 5,123,001 and whose last known address is: 29-24 Nishi 2-chome, Kunitachi-shi, Tokyo, Japan, do individually and on behalf of Makoto HARA declare that:

Our residences, Post Office addresses and citizenships are stated below next to our respective names.

We believe we are the original, first and sole inventors of the subject matter which is described and claimed in patent number 5,123,001, granted June 16, 1992, and for which a reissue patent is sought on the invention entitled **Disk Playback Device**, the specification of which is was filed on May 27, 1994 as Application Serial Number 08/250,667 and for which an amendment is filed concurrently herewith.

We hereby state that we have reviewed and understand the contents of the above identified specification, including the claims, as amended by the amendment filed concurrently with this declaration.

We acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, section 1.56(a).

We hereby claim foreign priority benefits under Title 35, United States Code Sec. 119 of the foreign application(s) for patent or inventor's certificate

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listed below, as claimed in the original patent, and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

NATIONAL PROCESSING PROVISIONS

Prior Foreign Application(s)		Priority Claimed	
(Number)	(Country)	(Day/Month/Year Filed)	
1-219071	Japan	26/8/89	Yes
1-219072	Japan	26/8/89	Yes
1-219073	Japan	26/8/89	Yes

U.S. Application(s)		Priority Claimed	
(Number)	(Day/Month/Year Filed)		
08/250,667	05/27/94	Yes	

Applicants verily believe the original patent to be wholly or partly inoperative or invalid because:

1. The specification is defective because of indefiniteness in the claims (See paragraphs B, G, I, J, L, and M below),

2. Applicants have claimed more than they were entitled to claim (See paragraph A, below), and

3. Applicants have claimed less than they were entitled to claim (See paragraphs C, D, E, and F, H, K, and N below).

A: Applicants have claimed more than they were entitled to claim because claims 1, 4, 8, and 9 read on a prior art reference, namely, Kawakami.

B: Applicants believe the patent is wholly or partly inoperative or invalid by reason of a defective specification. Claim 1 is indefinite. The recitation in claim 1 of: "first disk conveying means for transporting a [disk] ... along a ... straight line path *in a plane of said disk* ... means for displacing said magazine to bring [a disk] into *said plane*" (emphasis added) is indefinite since the plane of said disk does not identify a feature separate from the disk such that "means for displacing said magazine to bring [a disk] into *said plane*" is meaningful. That is, the plane travels with the disk so it is unclear how a disk can be brought into the plane.

C: Applicants have claimed less than they were entitled to claim by reciting, in claim 1: "second disk conveying means for transporting a disk ... beginning *outside* said disk storage and playback device". Requiring the access position to be outside is overly limiting since providing access to the disk at a position that is not outside of the disk-player is not an essential feature of the invention and a trivial design departure from claim 1, given the teachings of the specification. Thus, the claim is easily avoided by competitors while still obtaining benefits of the invention.

D: Applicants have claimed less than they were entitled to claim by reciting, in claim 1: "means for displacing said magazine to bring a selected one of said disks into said plane". This limitation is not essential since relative movement of the magazine is sufficient to provide for the alignment between the plane and the

magazine. Thus, the claim is easily avoided by competitors while still obtaining benefits of the invention.

E: Applicants have claimed less than they were entitled to claim, because in claim 1, means-plus-function language is used exclusively to define the: "... means for transporting ..." or "... means for moving ..." the disk. The statute, 35 U.S.C. §112, paragraph 6, requires such language to be interpreted to embrace only equivalents of structure described in the specification. This, at least potentially, renders these claims overly narrow since only devices employing equivalents of the specific mechanism identified with the "... disk conveying means for transporting ..." or "... means for moving ..." respectively, described in the specification will be found to infringe any of the claims. Thus, the claim may be easily avoided by competitors while still obtaining benefits of the invention.

F: Applicants have claimed less than they were entitled to claim by reciting in claims 1:

first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position along a first straight line path in a plane of said disk; and second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning outside said disk storage and playback device to said disk-reading position,

By linking the transfers to the disk-reading position, the claims unnecessarily exclude any device in which there is a discontinuity between the first and second straight line paths. This permits the patent to be circumvented very easily. As a result of the narrowness of the claim, it is only necessary for a competitor to make a device that differs from the claim only in the transposition of any pair of: (1) the magazine, (2) the disk-reading (or first) position, and (3) the user-access position. Such alternative arrangements still provide benefits of the invention without infringing the claims. Thus, the claim is easily avoided by competitors while still obtaining benefits of the invention.

G: Applicants believe claim 1 is at least partly inoperative or invalid due a defective specification because claim 1's second recitation of "a selected one of said disks" renders the claim indefinite. This is because there is antecedent basis for "selected one of said disks" appearing in the claim prior to the second recitation of "a selected one of said disks".

H. Applicants believe they have claimed less than they were entitled to claim in claim 2 because claim 2 requires a "main frame ... movably carried ... between a first position, whereat a disk carried therein is in said disk-reading position, and a second position whereat access is provided to a subframe received therein". This recitation is overly limiting because the claim can be easily circumvented by providing that the internal position of the mainframe position the disk held by a subframe therein in a position other than a disk-reading position. Such would be a trivial

departure from the claim and clearly enabled by Applicants' specification.

I: Applicants believe claim 2 is indefinite in reciting: "magazine including means for receiving a plurality of substantially planar disks in a concentric array ... a plurality of subframes, each of said subframes including means for receiving a single one of said disks; said magazine including means for receiving a plurality of said subframes". This recitation redundantly defines two independent means for accomplishing the same function.

J: Applicants believe claim 2's recitations of "plane of said disk" and "said plane" are indefinite. Specifically, claim 2 recites: "first disk conveying means for transporting a [disk] ... along a first straight line path *in a plane of said disk* ... means for displacing said magazine to bring [a disk] into *said plane*" (emphasis added). Since the plane of said disk does not identify a feature separate from the disk such that "means for displacing said magazine to bring [a disk] into *said plane*" is meaningful. That is to say, the plane travels with the disk so it is not clear how the disk can be brought into it.

K: Applicants believe they have claimed less than they were entitled to claim in claim 5 because claim 5 requires a "main frame ... movably carried ... between a first position, whereat a disk carried therein is in said disk-reading position, and a second position whereat access is provided to a subframe received therein". This recitation is overly limiting because the claim can be easily circumvented by providing that the first position be other

than a disk-reading position. Such would be a trivial departure from the claim and clearly enabled by Applicants' specification.

L: Applicants believe claim 7 is at least partly inoperative or invalid due to a defective specification because claim 7 introduces the element "mainframe" without positively setting it forth prior to the first reference to this element. In addition, there is no antecedent basis for the first recitation of "said mainframe" in claim 7.

M: Applicants believe claim 7 is at least partly inoperative or invalid due to a defective specification because claim 7 ambiguously and ungrammatically refers to "a subframes" in the clause reciting "n-1 of said subframes being received in said magazine when one of a subframes is received in said mainframe". Where claim 7 recited "a subframes", it should have recited "said subframes". This error makes claim 7 indefinite.

N: Applicants believe they have claimed less than they were entitled to claim in claim 7 because claim 7 requires: "said mainframe ... movably carried ... between a first position, whereat a disk carried therein is in said disk reading position". This recitation is overly limiting because the claim can be easily circumvented by providing that the internal position of the mainframe position the disk held by a subframe therein in a position other than a disk-reading position. Such would be a trivial departure from the claim and clearly enabled by Applicants' specification. Thus, the claim is easily avoided by competitors while still obtaining benefits of the invention.

The above errors are explained in more detail below together with an explanation of how the errors arose.

ERRORS

CLAIM 1

Claim 1 includes the errors A, B, C, D, E, F, and G, listed above. The following is a detailed explanation of each of the above errors as they relate to claim 1, and an explanation of how the error arose.

A. Claim 1 is invalid over Kawakami

The patent for which reissue is sought is at least partly inoperative because claims 1, 4, and 8 are anticipated by Kawakami. Thus, claim 1 claims more than Applicants' were entitled to claim. This error arose without deceptive intent on the part of the Applicants.

How Error Was Discovered: During the prosecution of the parent reissue application, the reference US Patent No. 4,567,584 issued to Kawakami, (hereafter, Kawakami) was discovered by the Examiner. Applicants received a copy of this reference shortly after being notified of the first office action in the parent reissue case, which office action was received by Applicants approximately in September, 1995. Upon reviewing the office action, Applicant's believed that the claims, even as amended in the parent reissue application, did not read on Kawakami. Applicants argued this position in the response to the first office action. The Examiner again rejected the claims as

anticipated by Kawakami. After discussions with Applicant's attorneys in August of 1996, Applicants became convinced that a broad reading of the claim language made it possible to read the claims on Kawakami. It is presently believed that claim 1 is susceptible to being held invalid over Kawakami.

Note that Applicants knew of the Kawakami reference in November 1992 and asked prosecuting attorney their opinion of its relevance to the validity of the '001 patent. Prosecuting attorney were convinced, based on the same arguments made in the first amendment in the parent reissue application, that Kawakami was not relevant. This is because Kawakami, Applicants and Applicants' attorneys agreed, Kawakami did not transport disks in straight lines, did not transport the disk in a planar path between the magazine and the disk-reading position, etc. The reasoning is the same as evidenced by arguments advanced to distinguish Kawakami from the reissue claims in the first amendment of the parent of the current application. Applicants believed Kawakami was so different from the invention as claimed that it had no relevance and therefore did consider there to be a need to narrow the claims to avoid it. As stated elsewhere in this declaration, the Examiner of the parent of the present reissue application proposed a broad reading of certain limitations which forced Applicants to reconsider and change their position.

How Error Occurred: In June, 1990, applicants sent to prosecuting attorney, Morrison Law Firm, three Japanese patent applications on which to base an application for a U.S. patent. All of the Japanese patent applications 1-219071, 1-219071, and 1-219073 contained essentially the same disclosure. The drawings were essentially the same as those appearing in the '001 patent and the specification of the Japanese applications described the preferred embodiment described by the '001 patent. The Japanese claims described the preferred embodiment narrowly. Prosecuting attorney drafted American claims from

scratch. That is, the limitations placed in the broadest claims were supposed to be sufficient only to distinguish prior art according to American practice.

Therefore, when the claims were drafted and during prosecution, when they were amended, Applicants failed to draft the claims so as to avoid reading on Kawakami. This failure resulted in the error in the issued patent.

How reissue overcomes defects in claim 1: To correct the above error in the claims of the '001 patent, Applicant proposes to replace claim 1 with claims 10 and 19. The following changes in claim 1 are intended to overcome the above defect in that claim:

Original clause	Corresponding new clause -claim 10
1. A disk storage and playback device comprising:	
a chassis;	
a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to	
said disk-reading position	a first position aligned with said disk-reading position

along a first straight line path in a plane of said disk;	
second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning outside said disk storage and playback device to	
said disk-reading position	said first position
within said disk storage and playback device; and	
means for displacing said magazine to bring a selected one of said disks into said plane	
	, said first position being substantially fixed relative to said disk-reading position, despite a displacement of said one of said magazine and said plane.

Original clause	Corresponding new clause - claim 10
1. A disk storage and playback device comprising:	
a chassis;	

a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to	
said disk-reading position	a first position aligned with said disk-reading position
along a first straight line path in a plane of said disk;	
second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning	
outside said disk storage and playback device to	
said disk-reading position	said first position
within said disk storage and playback device; and	
means for displacing said magazine to bring a selected one of said disks into said plane	

.	; said selected one of said disks being disengageable, while at said first position, from said first disk conveying means, to permit reading by said disk reader.
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Claim 1 of the '001 patent recites "first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position". The Examiner of the parent application argued that this limitation is shown by Kawakami since, in the Kawakami device, the disk is transported to a position DC₆ which is aligned with the position, DC₇ in which the disk is actually read. The Examiner pointed out that, in the preferred embodiment of Applicants' specification, the disk is not, strictly speaking, "transport[ed] ... from said magazine to said disk-reading position along a first straight line path in a plane". Rather, in Applicants' preferred embodiment, the disk is transported in a straight line to a first position and then transported a short distance in an axial direction to the disk-reading position in which the disk is engaged with the disk reader. Thus, the Examiner said, DC₆ is a disk-reading position in the same (ambiguous) sense as that recited by the claim. To distinguish Kawakami and other prior art, it is necessary to define clear distinctions between Kawakami and the invention. To do this, in claim 10, two separate positions are defined in the new claims: a "first position aligned with said disk-reading position" and a "disk-reading position", "a disk reader ... reading one of said disks when said one of said disks is in [the] disk-reading position".

By wording claim 10 so that there is a distinction between the "first position" and the "disk-reading position", it is no longer necessary to strain the

meaning of "straight line path" as the Examiner felt compelled to do, in order to read claim 1 on Applicants' preferred embodiment. Thus, Applicant proposes, "straight line" can be interpreted in claim 10 according to its ordinary meaning such that claim 10 properly reads on the Applicants' preferred embodiment. In addition, claim 10 does not read on Kawakami for the reasons given below.

Referring to Kawakami Figs. 18(a) and 18(b), the disk-reading position is DC₇. The only positions identifiable with the "first position" are DC₆, DC₇, and DC₈ since these are the only positions in common along the path satisfying both the limitation "from said magazine to a first position" and the path satisfying the limitation "beginning at an access position ... to said first position". However, as discussed below, neither of these paths satisfies the limitation "straight line" as required by claim 10.

The path from the magazine, position DC₁, is defined by DC₁-DC₂-DC₃-DC₄-DC₅-DC₆ and so on. The path from the access position, DC₁₁ is defined by DC₁₁-DC₆-DC₈ and so on. The only positions of overlap are, as stated above, along the path DC₆-DC₈-DC₇.

When the device of Kawakami removes disks from the storage to the position DC₆, DC₇, or DC₈, it transports them along path DC₁-DC₂-DC₃-DC₄-DC₅-DC₆ (Note that in Fig. 18(b), disk position DC₁ is mislabeled as DC₁₁). During this process, lever 104 pushes the disk from the position in the storage DC₁ up toward rolling pulley 352 where it reaches position DC₂. Then rolling pulley 352 rotates and pushes the disk toward loading member 425 to bring the disk to position DC₄. The loading member 425 then lifts the disk to position DC₅ so that loading member 425 forms a ramp with the bottom of guide groove 301. The disk then rolls of its own weight until it reaches position DC₆ in the disk-pocket 500. This path is clearly not a straight line as recited in claim 10.

To patentably distinguish Japanese utility model publication 60-10452 (JP '452) and all other prior art known to Applicants, two alternative limitations are added:

- (1) "said selected one of said disks being disengageable, while at said first position, from said first disk conveying means, to permit reading by said disk reader".
- (2) "said selected one of said disks being disengageable, while at said first position, from said first disk conveying means, to permit reading by said disk reader"

Either clause relates the first position to the disk-reading position in a way that distinguishes all prior art known to Applicants. Since these are alternative ways to distinguish the prior art, two claims must be provided, each relying on one of the two alternative bases of distinction. Thus, claims 10 and 19, each relying on a different one of the two clauses, are added.

B. Claim 1's recitations of "plane of disk" and "said plane" are indefinite

The patent for which reissue is sought is at least partly inoperative because of a defective specification. The specification is indefinite because claim 1 contains a definition that is imprecise. Specifically, claim 1 recites: "first disk conveying means for transporting a [disk] ... along a first straight line path *in a plane of said disk* ... means for displacing said magazine to bring [a disk] into *said plane*" (emphasis added). Since the plane of said disk does not identify a feature separate from the disk such that "means for displacing said magazine to bring [a disk] into *said plane*" is meaningful. That is to say, the plane travels with the disk so it is not clear how the disk can be brought into it.

How Error Was Discovered: In August, 1996, Applicants met with their current prosecuting attorneys to discuss the claims of the '001 patent with a view to responding to the pending office action in the parent of the current reissue case. Applicants and their attorneys analyzed the Kawakami reference in comparison with the claims in an effort to decide how to distinguish the claims from Kawakami while broadening the claims as discussed elsewhere in this declaration. After a careful review and analysis of the claims by Applicants' attorneys and Applicants, Applicants, agreed that the above-quoted recitation was imprecise, which made it more difficult to establish the differences between Kawakami and the claims.

How Error Occurred: In June, 1990, applicants sent to prosecuting attorney, Morrison Law Firm, three Japanese patent applications on which to base an application for a U.S. patent. All of the Japanese patent applications 1-219071, 1-219071, and 1-219073 contained essentially the same disclosure. The drawings were essentially the same as those appearing in the '001 patent and the specification of the Japanese applications described the preferred embodiment described by the '001 patent. The Japanese claims described the preferred embodiment narrowly. Prosecuting attorney drafted American claims from scratch. That is, the limitations placed in the broadest claims were supposed to be sufficient only to distinguish prior art according to American practice. Since prosecuting attorney were not aware of Kawakami, the language pertaining to the "plane" did not have to be sharpened and the unclear recitation was placed in claim 1 in an amendment to claim 1, filed on October 18, 1991, and permitted to remain in the claim. The amendment was in response to a section 112 rejection, regarding which the Examiner stated the recitation "plane of said straight line path" was indefinite. Applicants amended this clause to read merely "said plane" believing this referred back to "plane of said disk" and that this was

sufficiently clear. Again, the fact that this recitation was vague only became clear after Applicants confronted Kawakami.

How reissue overcomes above defect in claim 1: To correct the above error in the claims of the '001 patent, Applicant proposes to replace claim 1 with claims 10 and 19. The following changes in claim 1 are intended to overcome the above defect in claim 1:

Original clause	Corresponding new clause -claims 10 and 19
1. A disk storage and playback device comprising:	
a chassis;	
a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position	
along a first straight line path in a	

plane of said disk;	transport plane coinciding with a primary plane of said selected one of said disks while transported along said first straight line path;
second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning outside said disk storage and playback device to said disk-reading position within said disk storage and playback device; and	
means for displacing said magazine to bring a selected one of said disks	
into said plane.	into said transport plane

Claim 10 recites "transport plane coinciding with a primary plane of said selected one of said disks while transported along said first straight line path" instead of simply "plane of said disk". It relates the location of the plane to "while transported along said first straight line path" which locates the plane in a position independent of the disk itself. In addition, the term "primary plane" is used to identify the generally flat surface of the disk to make the recitation more precise. The clause "into said plane" is changed to "into said transport plane" only to make the claim self-consistent.

C. Claim 1's reference to a "position outside said device" is overly limiting

The patent for which reissue is sought is at least partly inoperative because Applicants have claimed less than they were entitled to claim as a result of claim 1's recitation of "second disk conveying means for transporting a disk ... beginning outside said disk storage and playback device". Requiring the access position to be outside is overly limiting since many disk player designs at the time of filing of the original application permitted access to disks at positions only partly outside the disk changer. Such alternatives were clearly enabled by the Applicants' specification and the limitation was not necessary to make the claim allowable over the prior art.

How Error Was Discovered: Subsequent to the issuance of the patent, during approximately the first two months of 1993, Applicants studied the issued patent and attempted to read the patent on a competitor's device. Applicants discussed the matter with Applicants' present Attorneys, around the same time, who opined that claim 1 did not cover the competitor's device. During March of 1993, Applicants forwarded their concerns to Applicants' present Attorneys with information about a changer mechanism manufactured by a competitor which they believed should have been covered by the patent. The Applicants asked Applicants' Attorneys to review the competitor's changer mechanism and their additional concerns to determine if the patent scope covered the competitor's device. When the Attorneys could not apply claim 1 or any of the other claims to the competitor's device, Applicants' came to understand the difficulty caused by the first and second errors described above. Applicants, as a result of careful discussion and correspondence, came to their present understanding that claim 1 was much narrower than Applicants realized.

One of the conclusions at that time was that the recitation of “beginning outside” limitation was overly narrow.

How Error Occurred: In an office action mailed on August 19, 1991, the Examiner rejected claim 1 over Nakayama (USP 4,653,037) in view of Takemura (JP 0204547). In that rejection, the recitation of “second means for transporting a disk not stored in said magazine to said disk-reading position” was stated by the Examiner satisfied by the disclosure in Nakayama of a disk originating at a position other than an access position. In response, Applicants’ attorneys added the recitation “in a second straight line path beginning outside said disk storage and playback device” and “within said disk storage and playback device” in order to distinguish the origin the Examiner identified with the original clause. This limitation remained in the claim until the patent issued.

Applicants at the time did not appreciate the narrowness of this limitation, even though they were aware that many models of disk players provided access that could be described as not meeting the “outside” limitation. This is because Applicants were not very familiar with the American “peripheral” form of claiming as compared to the Japanese system of “central” claiming. Applicants submit that their attorneys were not aware that the “outside” limitation was a strong limitation in view of alternative designs because their attorneys did not appreciate the invention nor the scope of the prior art sufficiently.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim 1: To correct the above error in claim 1 of the ‘001 patent, Applicant proposes to replace claim 1 with claim 10. The following changes in claim 1 are intended to overcome the above defect in claim 1:

Original clause	Corresponding new clause -claims 10 and 19
1. A disk storage and playback device comprising:	
a chassis;	
a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position along a first straight line path in a plane of said disk; and	
second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning	
outside said disk storage and playback device to	at an access position at least partly outside said disk storage and playback device to
said disk-reading position within said disk storage and playback device; and	

means for displacing said magazine to bring a selected one of said disks into said plane.	
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Claim 10 recites “at an access position at least partly outside said disk storage and playback device” instead of simply “outside said disk storage and playback device”. This recitation makes the distinction Applicants intended to provide in the claim without limiting the claim to any specific type of access position as was done in the second amendment in the application from which the ‘001 patent issued. With this limitation, the claim as a whole patentably distinguishes all prior art known to Applicants.

D. Claim 1's recitation of “means for displacing ...” is overly limiting

Claim 1 recites: “means for displacing said magazine to bring a selected one of said disks into said plane”. This limitation is narrower than required to distinguish prior art since only relative movement between the plane and the magazine is necessary to practice the invention.

How Error Was Discovered: In August, 1996, Applicants met with their current prosecuting attorneys to discuss the claims of the ‘001 patent with a view to responding to the pending office action in the parent of the current reissue case. Applicants and their attorneys analyzed the claims with a view to overcoming the rejection of claims over Kawakami. The discussions occurred over a period of two days during which all the claims were carefully scrutinized relative to the prior art. During the course of this discussion, Applicants better appreciated how the claims are interpreted under American law and Applicants’ attorneys learned more about

the prior art existing at the time of the application. With the need to preserve as much claim scope as possible in view of the fact that claims had to be narrowed, it became clear to Applicants and their attorneys that the recitation of "means for displacing said magazine to bring a selected one of said disks into said plane" was more limiting than required to distinguish the prior art.

How Error Occurred: In an office action mailed on February 25, 1991, the Examiner rejected claim 1 as anticipated by Imai (USP 4,797,865). In response, Applicants' attorneys added to claim 1 limitations from two dependent claims (claims 2 and 3) and argued that claim 1 was thereby distinguished from Imai." Applicants had had an opportunity to review the amendment, but did not appreciate how limited the claim was rendered at that point by requiring a "means for displacing". Also, Applicants' attorneys did not fully appreciate the invention in the context of the prior art as well as they could have and so believed the claim was not unduly narrowed by the addition of this clause.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim 1: To correct the above error in claim 1 of the '001 patent, Applicant proposes to replace claim 1 with claim 10. The following changes in claim 1 are intended to overcome the above defect in claim 1:

Original clause	Corresponding new clause -claims 10 and 19
1. A disk storage and playback device comprising:	
a chassis;	

a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position along a first straight line path in a plane of said disk; and	
second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning	
outside said disk storage and playback device to said disk-reading position within said disk storage and playback device; and	
means for displacing said magazine	means for displacing at least one of said magazine and said transport plane
to bring	
a	said
selected one of said disks into	
said plane.	said transport plane.

Claim 10 recites "means for displacing at least one of said magazine and said transport plane to bring said selected one of said disks into said transport plane" instead of simply "means for displacing ..." This recitation is broader than that added in the amendment discussed above, but narrow enough to distinguish clearly all prior art known to Applicants. The recitation "said plane" is added so that this portion of claim 10 will be consistent with the portion changed in connection with error B discussed above.

E. Claim 1's recitation of "... means for transporting ..." is overly narrow

In claim 1, means-plus-function language is used exclusively to define the: "first ... and second means for transporting ..." the disk. The statute 35 U.S.C. §112, paragraph 6 requires such language to be interpreted to embrace only equivalents of structure described in the specification. This, at least potentially, renders claim 1 overly narrow since only devices employing equivalents of the specific mechanism identified with the "... disk conveying means for transporting ..." described in the specification will be found to infringe the claim.

How Error Was Discovered: In June, 1996, after the second office action was received in the parent of the present reissue case, Applicants' attorneys reviewed the claims of the '001 patent. In response to the prior office action, Applicants had argued that the Examiner misinterpreted Kawakami in reading the claims on this device. In this second office action, however, the Examiner made clearer how he was reading the claims. At that point, Applicants realized it would be necessary to narrow the claims to avoid Kawakami. In view of the

fact that claims would have to be narrowed to distinguish Kawakami, Applicants and their attorneys considered the claims in an effort to identify the scope of the claims as a whole. In the course of this analysis, at some time between June 1996 when the second office action was received and July 1996, Applicants' attorneys indicated to Applicants that all of the claims defined a crucial feature exclusively in means-plus-function format, which is a severe liability in terms of the operativeness of the patent for the reasons given above.

How Error Occurred: When the claims were drafted in 1990, prosecuting attorneys performed almost exclusively prosecution work. During prosecution, the patent office, at that time, interpreted means-plus-function clauses without the narrowing effect of §112, paragraph 6. Applicants' attorneys drafted the claims under the assumption that the breadth of the claims was as broad as the language on its face. This was still the habit of the attorneys throughout prosecution during 1991. Applicants had little knowledge of the specifics of claim interpretation when the patent was prosecuted and could not propose changes or additions to the claims. Applicants submit that their prosecuting attorneys made a mistake of law in relying exclusively on means-plus-function language in critical portions of the claims.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim 1: To correct the above error in claim 1 of the '001 patent, Applicant proposes to add claim 28. The following changes in claim 1 are intended to overcome the above defect in claim 1:

Original clause	Corresponding new clause -claims 28 and 37
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1. A disk storage and playback device comprising:	
a chassis;	
a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting	a disk conveyor with at least one drive element engageable with
a selected one of said disks	
	and movable in at least one range such as to transport said selected one of said disks
from said magazine to said disk-reading position along a first straight line path in a plane of said disk;	
second disk conveying means for transporting	and such as to transport
a disk not stored in said magazine	

in a second straight line path beginning outside said disk storage and playback device to said disk-reading position within said disk storage and playback device; and	
means for displacing said magazine to bring a selected one of said disks into said plane.	

Claim 28 replaces the means-plus-function recitation defining the “first” and “second disk conveying means” with structural language. The new language is supported by the specification as filed. In addition, the new language, in other respects, adheres closely to the original claim.

To eliminate the means plus function recitation, first and second disk conveying means for transporting is replaced with language defining “at least one drive element”. The other changes narrow this structure. Because the new clause defines the disk conveyor mechanism of the invention in language that is not subject to the application of §112, paragraph 6, its scope is not limited thereby. This eliminates the above-described defect in claim 1.

The change from means-plus-function recitation to structural recitation inevitably adds structural elements not included in the original claim. Thus, the new claim is narrower in some respect because it includes new elements. To preserve scope corresponding to the original means-plus-function recitation, rather than amending the claim, a new claim is added. The combined scope of the reissue patent having both means-plus-function recitation and structural recitation results in the broadening effect which is desired to be obtained to

negate the effect of the above error. Thus, all the new claims have structural counterparts in the amendment. Claim 28 is the counterpart to claim 10 and claim 37, the counterpart to claim 19. To address further errors, claims 36 and 64 and claim 82 and 100 are added in the above amendment. Claims 55 and 73 are the structural-language counterparts to claims 46 and 64, respectively and claims 91 and 109 are the structural-language counterparts to claims 82 and 100, respectively. The differences between the wording in claim 1 and the wording in claims 55, 73, 91, and 109 are discussed below in connection with new claims 46, 64, 82, and 100 since they are different from the changes discussed above only to provide consistency with the changes made to correct other errors discussed below.

F. All transfers are defined as linked through an identical position.

Claim 1 recites "first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position along a first straight line path in a plane of said disk; and second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning outside said disk storage and playback device to said disk-reading position". By requiring the disk to be transferred through the same position, namely, the disk-reading position, Applicants have unnecessarily limited the invention to the single embodiment where the first and second straight line paths are contiguous. This is not necessary to practice the invention. For example, if the claim is revised by the mere swapping of any pair of the eject, disk-reading, and access positions, a device will be defined that is supported by the specification, but embodiments of which are not read on by claim 1. This allows the claim to be easily circumvented.

Among the advantages discussed in the specification are rapid loading and unloading of disks directly between the access and the storage and rapid transfer from the access to the disk-reading position in combination with access-loading storage (like a single-play device and a changer device in one unit). So, for example, transfer of the disk from the access position to the magazine, in the preferred embodiment, can be described without mentioning the disk-reading position at all. Linking disk transfer through the same position was not necessary to distinguish prior art and the inclusion of this limitation was error.

As a result of the narrowness of the claims, it is only necessary for a competitor to transpose any pair of: (1) the magazine, (2) the disk-reading (or first) position, and (3) the user-access position to achieve advantages described in the specification. Such variations are trivial in view of the teachings of the specification yet they retain advantages of the invention. For example, if the disk-reading position and magazine are transposed in the preferred embodiment, the result is not read on by claim 1 or any other claim of the patent.

How Error Was Discovered: Subsequent to the issuance of the patent, during approximately the first two months of 1993, Applicants studied the issued patent and attempted to read the patent on a competitor's device. Applicants discussed the matter with Applicants' present Attorneys, around the same time, who opined that claim 1 did not cover the competitor's device. During March of 1993, Applicants forwarded their concerns to Applicants' present Attorneys with information about a changer mechanism manufactured by a competitor which they believed should have been covered by the patent. The Applicants asked Applicants' Attorneys to review the competitor's changer mechanism and their additional concerns to determine if the patent scope covered the competitor's device. When the Attorneys could not apply claim 1 or any of the other claims to the competitor's device, Applicants' came to

understand the difficulty caused by the first and second errors described above. Applicants, as a result of careful discussion and correspondence, came to their present understanding that claim 1 was much narrower than Applicants realized. One of the conclusions at that time was that the requirement that the disk be transferred along straight line paths between the access and disk-reading positions and the magazine was too narrow. It was decided that a reissue application should be filed. A reissue application was filed, the parent application, and new claims removing the "straight line" limitation proposed. The first office action was mailed on August 24, 1995. This office action rejected the claims over prior art and under 35 U.S.C. §251, for an insufficient reissue declaration. After the office action was received by Applicants and their attorneys, Applicants' attorneys began reviewing the prior art cited against the claims, namely Kawakami (*supra*), and Imai (*supra*) and the declaration. As a result of that review, a proposed response to the office action and a new reissue declaration were prepared. Applicants' attorneys in November and December of 1995, Applicants' attorneys proposed to Applicants that the errors identified in the patent could be expressed in simpler terms and, in view of the prior art cited in the August 24, 1995 office action, the defects could not be overcome by broadening to the degree originally attempted. In November, Applicants' attorneys explained by letter the above error in the claims, which recognize that the straight-line limitations were important in distinguish the prior art.

How Error Occurred: In an office action mailed on February 25, 1991, the Examiner rejected claim 1 as anticipated by Imai (*supra*). In response, Applicants' attorneys added to claim 1 limitations from two dependent claims (claims 2 and 3) and argued that claim 1 was thereby distinguished from Imai. The addition of these limitations resulted in the error in the claim. The claim could have been distinguished from Imai without going as far as the Attorney

went. Applicants had had an opportunity to review the amendment, but did not appreciate how limited the claim was rendered at that point by requiring a “means for displacing”. Also, Applicants’ attorneys did not fully appreciate the invention in the context of the prior art as well as they could have and so believed the claim was not unduly narrowed by the addition of this clause.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim 1: To correct the above error in claim 1 of the ‘001 patent, Applicant proposes to add new claims, each defining the invention based on one of the possible permutations of the magazine, disk-reading position, and the access position. That is, whereas claim 10, (and claim 1), recite: “first disk conveying means for transporting a [disk] from said magazine to a first position ... second disk conveying means for transporting a disk ... beginning at an access position ... to said first position”, claims 46 and 82 recite, respectively:

(Claim 46) “first disk conveying means for transporting a [disk] from said magazine to a first position ... second disk conveying means for transporting a disk ... beginning at an access position ... to said *magazine*” (emphasis added)

(Claim 82) “first disk conveying means for transporting a [disk] from said magazine to *an access* position ... second disk conveying means for transporting a disk ... beginning at *said* access position ... to said first position” (emphasis added)

So that the same error is not repeated with respect to the new claims 19, 28, and 37, new claims 55, 64, 73, 91, 100, and 109, (a total of two new claims for each of claims 10, 19, 28, and 37), are added. Where claims 46 and 82,

correspond to claim 10, claims 55 and 91 correspond to claim 19, claims 64 and 100 correspond to claim 28, and claims 73 and 109 correspond to claim 37.

Original clause	Corresponding new clause -claims 46, 55, 64, and 73
1. A disk storage and playback device comprising:	
a chassis;	
a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to	
said disk-reading position	
along a first straight line path in a	
plane of said disk and	
second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning outside said disk storage and playback device to	
said disk-reading position	said magazine

within said disk storage and playback device; and	
means for displacing said magazine to bring a selected one of said disks into said plane.	

Original clause	Corresponding new clause -claim 82, 91, 100, and 109
1. A disk storage and playback device comprising:	
a chassis;	
a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to	
said disk-reading position	an access position
along a first straight line path in a plane of said disk;	

second disk conveying means for transporting a disk not stored in said magazine in a second straight line path beginning outside said disk storage and playback device to said disk-reading position within said disk storage and playback device; and	
means for displacing said magazine to bring a selected one of said disks into said plane.	

G. Second recitation of "selected one of said disks" has antecedent basis:

There is antecedent basis for claim 1's second recitation of "a selected one of said disks". The indefinite article "a" should be changed to "said" to avoid the indefiniteness.

How Error Was Discovered: In reviewing the claims in preparation for filing the parent reissue application, in early 1994, Applicants' attorneys discovered the above error and notified the client around May, 1994.

How Error Occurred: In an office action mailed on February 25, 1991, the Examiner rejected claim 1 as anticipated by Imai (USP 4,797,865). In response, Applicants' attorneys added to claim 1 limitations from two dependent claims (claims 2 and 3). Claim 3 depended from claim 1. Both claim 1 and claim 3 recited "a selected one of said disks" in the original application, so the error

existed in the original application as filed. As the application was prosecuted, neither Applicants, the Examiner, nor Applicants' attorneys discovered the error and took steps to correct it before the patent issued.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim 1: by changing "a selected ..." to "said selected ...", in the new claims, the ambiguous reference is removed.

NEW CLAIMS DEPENDING FROM CLAIMS 10, 19, 28, 37, 46, 55, 64, 73, 82, 91, 100, 109, AND 117.

The above errors regarding the scope of claim 1 (those errors labeled A, C, D, E, and F) implicitly include the error of not including appropriate dependent claims that depend from the new claims that are added in this reissue application to overcome the errors in claim 1. The dependent claims added in the amendment include limitations that help to further distinguish prior art such as Kawakami and JP '452.

CLAIM 2

Claim 2 includes the errors H, I, and J listed above. The following is a detailed explanation of each of the above errors as they relate to claim 2, and an explanation of how the errors arose.

H. In claim 2, mainframe moved to disk-reading position is overly limiting

Claim 2 requires a “main frame ... movably carried ... between a first position, whereat a disk carried therein is in said disk-reading position, and a second position whereat access is provided to a subframe received therein”. This recitation is overly limiting because the claim can be easily circumvented by providing that the internal position the disk held by a subframe in the mainframe be a position other than a disk-reading position. Such would be a trivial departure from the claim and clearly enabled by Applicants’ specification.

How Error Was Discovered: Subsequent to the issuance of the patent, during approximately the first two months of 1993, Applicants studied the issued patent and attempted to read the patent on a competitor's device. Applicants discussed the matter with Applicants' present Attorneys, around the same time, who opined that claim 2 did not cover the competitor's device. During March of 1993, Applicants forwarded their concerns to Applicants' present Attorneys with information about a changer mechanism manufactured by a competitor which they believed should have been covered by the patent. The Applicants asked Applicants' Attorneys to review the competitor's changer mechanism and their additional concerns to determine if the patent scope covered the competitor's device. When the Attorneys could not apply claim 2 or any of the other claims to the competitor's device, Applicants' came to understand the difficulty caused by the error described above. Applicants, as a result of careful discussion and correspondence, came to their present understanding that claim 2 was much narrower than Applicants had realized during prosecution.

How Error Occurred: In June, 1990, applicants sent to prosecuting attorney, Morrison Law Firm, three Japanese patent applications on which to base an application for a U.S. patent. All of the Japanese patent applications 1-219071, 1-219071, and 1-219073 contained essentially the same disclosure. The drawings were essentially the same as those appearing in the '001 patent and the specification of the Japanese applications described the preferred embodiment described by the '001 patent. The Japanese claims described the preferred embodiment narrowly. Prosecuting attorney drafted American claims from scratch. That is, the limitations placed in the broadest claims were supposed to be sufficient only to distinguish prior art according to American practice. When the application for patent '001 was filed in August 23, 1990, claim 4, which ultimately issued as claim 2, contained the above error. Claim 4 originally depended from claim 1, but was later amended to place it in independent form. The only amendments to claim 4 during prosecution changed it to independent form and clarified its language, but did not alter its scope. Shortly before the application was filed in August, 1990, in the same month, Applicants' attorneys sent the proposed application to Applicants for review. However, Applicants, at the time of filing, did not fully understand American "peripheral" style of claim drafting and did not appreciate the narrowness of claim 4 at this time.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim: Claim 2 is replaced with new claim 118. The following table shows the differences between claim 2 and claim 118 that are intended to overcome the above defect.

Original clause	Corresponding new clause - claim 118
2. A disk storage and playback device comprising:	

a chassis;	
a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position along a straight line path in a plane of said disk;	
second disk conveying means for transporting a disk not stored in said magazine	
	from a first position
to said disk-reading position;	
means for displacing said magazine to bring a selected one of said disks into said plane;	
a plurality of subframes, each of said subframes including means for receiving a single one of said disks;	

said magazine including means for receiving a plurality of said subframes; and	
a main frame for receiving a single one of said subframes;	
said main frame being movably carried by said chassis for movement between	
a first position, whereat a disk carried therein is in said disk-reading position,	said first position
and a second position whereat access is provided to a subframe received therein such that a disk may be one of inserted therein and removed therefrom.	

The above error is cured by removing the limitation: "whereat a disk carried therein is in said disk-reading position" from the clause introducing the first position and by changing the definition of the second disk conveying means to provide that the "disk not stored in said magazine" is transported from the first position by the second disk conveying means.

I. Claim 2's magazine receiving means is recited redundantly

Claim 2 contains an indefiniteness in the recitation "magazine including means for receiving a plurality of substantially planar disks in a concentric array ... a plurality of subframes, each of said subframes including means for receiving a single one of said disks; said magazine including means for receiving

a plurality of said subframes". This recitation redundantly defines two independent means for accomplishing the same function. That is, the function of the element "magazine includ[ing] means for receiving ... disks" is duplicated by the recitation "subframes including means for receiving a single ... said magazine including means for receiving a plurality of said subframes" without defining any connection between these elements.

How Error Was Discovered: Applicants' attorneys received a copy of a first office action in the parent reissue application filed on May 27, 1994. Applicants' attorneys discovered the above error in the course of reviewing the claims with a view to preparing a response. Applicants' attorneys proposed to file two new claims in a response to the first office action in which the above error was removed. Applicants' attorneys sent the proposed amendment to Applicants in February of 1996, shortly before it was filed.

How Error Occurred: In June, 1990, applicants sent to prosecuting attorney, Morrison Law Firm, three Japanese patent applications on which to base an application for a U.S. patent. All of the Japanese patent applications 1-219071, 1-219071, and 1-219073 contained essentially the same disclosure. The drawings were essentially the same as those appearing in the '001 patent and the specification of the Japanese applications described the preferred embodiment described by the '001 patent. The Japanese claims described the preferred embodiment narrowly. Prosecuting attorney drafted American claims from scratch. When the application for patent '001 was filed in August 23, 1990, claim 4, which ultimately issued as claim 2, contained the above error. Claim 4 originally depended from claim 1, but was later amended to place it in independent form. The only amendments to claim 4 during prosecution changed it to independent form and clarified its language, but did not alter its scope. Shortly before the application was filed in August, 1990, in the same month,

Applicants' attorneys sent the proposed application to Applicants for review. However, because Applicants' English facility was limited and because Applicants were not thoroughly versed in the requirements of American claims, Applicants did not recognize the above error.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim: Applicants propose to eliminate the redundant recitation described above by revising the claim as shown in the following table. Note that the recitation "a plurality of subframes, each of said subframes including means for receiving a single one of a plurality of disks" is substantially the same as recited in the original claim but moved to an earlier part of the claim to provide antecedent basis for "magazine means for receiving said plurality of subframes". The claim's scope is substantially unchanged by the modifications summarized in the table below and this change eliminates the error described above.

Original clause	Corresponding new clause -claim 118
2. A disk storage and playback device comprising:	
a chassis;	
	a plurality of subframes, each of said subframes including means for receiving a single one of a plurality of disks;
a magazine nondetachably carried by said chassis, said magazine including means for receiving	

	said plurality of subframes such as to hold
a	said
plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position along a straight line path in a plane of said disk;	
second disk conveying means for transporting a disk not stored in said magazine to said disk-reading position;	
means for displacing said magazine to bring a selected one of said disks into said plane;	
a plurality of subframes, each of said subframes including means for receiving a single one of said disks;	[DELETED]

said magazine including means for receiving a plurality of said subframes; and	[DELETED]
a main frame for receiving a single one of said subframes;	
said main frame being movably carried by said chassis for movement between a first position, whereat a disk carried therein is in said disk-reading position, and a second position whereat access is provided to a subframe received therein such that a disk may be one of inserted therein and removed therefrom.	

J. Claim 2's recitations of "plane of disk" and "said plane" are indefinite

The patent for which reissue is sought is at least partly inoperative because of a defective specification. The specification is indefinite because claim 1 contains a definition that is imprecise. Specifically, claim 1 recites: "first disk conveying means for transporting a [disk] ... along a first straight line path *in a plane of said disk* ... means for displacing said magazine to bring [a disk] into *said plane*" (emphasis added). Since the plane of said disk does not identify a feature separate from the disk such that "means for displacing said magazine to

bring [a disk] into *said plane*" is meaningful. That is to say, the plane travels with the disk so it is not clear how the disk can be brought into it.

How Error Was Discovered: In August, 1996, Applicants met with their current prosecuting attorneys to discuss the claims of the '001 patent with a view to responding to the pending office action in the parent of the current reissue case. Applicants and their attorneys analyzed the Kawakami reference in comparison with the claims in an effort to decide how to distinguish the claims from Kawakami while broadening the claims as discussed elsewhere in this declaration. After a careful review and analysis of the claims by Applicants' attorneys and Applicants, Applicants, agreed that the above-quoted recitation was imprecise, which made it more difficult to establish the differences between Kawakami and the claims.

How Error Occurred: In June, 1990, applicants sent to prosecuting attorney, Morrison Law Firm, three Japanese patent applications on which to base an application for a U.S. patent. All of the Japanese patent applications 1-219071, 1-219071, and 1-219073 contained essentially the same disclosure. The drawings were essentially the same as those appearing in the '001 patent and the specification of the Japanese applications described the preferred embodiment described by the '001 patent. The Japanese claims described the preferred embodiment narrowly. Prosecuting attorney drafted American claims from scratch. That is, the limitations placed in the broadest claims were supposed to be sufficient only to distinguish prior art according to American practice. Since prosecuting attorney were not aware of Kawakami, the language pertaining to the "plane" did not have to be sharpened and the unclear recitation was placed in claim 4 in an amendment to claim 4 (which issued as claim 2), filed on October 18, 1991, and permitted to remain in the claim. The language added to claim 4 was imported from claim 1 (to place claim 4 in independent form) and

thus existed in the application as filed. This resulted in the error in the issued patent.

How reissue overcomes above defect in claim 2: To correct the above error in the claims of the '001 patent, Applicant proposes to replace claim 2 with claim 118. The following changes in claim 1 are intended to overcome the above defect in claim 2:

Original clause	Corresponding new clause -claim 118
2. A disk storage and playback device comprising:	
a chassis;	
a magazine nondetachably carried by said chassis, said magazine including means for receiving a plurality of substantially planar disks in a concentric array;	
a disk reader for reading one of said disks when said one of said disks is in a disk-reading position;	
first disk conveying means for transporting a selected one of said disks from said magazine to said disk-reading position along a straight line path in a	

plane of said disk	transport plane parallel to a primary plane of said disk transported along said straight line path
second disk conveying means for transporting a disk not stored in said magazine to said disk-reading position;	
means for displacing said magazine to bring a selected one of said disks into	
said plane;	said transport plane;
a plurality of subframes, each of said subframes including means for receiving a single one of said disks;	
said magazine including means for receiving a plurality of said subframes; and	
a main frame for receiving a single one of said subframes;	

said main frame being movably carried by said chassis for movement between a first position, whereat a disk carried therein is in said disk-reading position, and a second position whereat access is provided to a subframe received therein such that a disk may be one of inserted therein and removed therefrom.	
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Claim 118 recites "transport plane parallel to a primary plane of said disk transported along said first straight line path" instead of simply "plane of said disk". It relates the location of the plane to the disk "transported along said first straight line path" which locates the plane in a position independent of the disk itself. In addition, the term "primary plane" is used to identify the generally flat surface of the disk to make the recitation more precise. The clause "into said plane" is changed to "into said transport plane" only to make the claim self-consistent.

CLAIM 5

Claim 5 includes the error K listed above. The following is a detailed explanation of each of the above error in claim 5, and an explanation of how the error arose.

K. In claim 5, mainframe moved to disk-reading position is overly limiting

Claim 5 requires a "main frame ... movably carried ... between a first position, whereat a disk carried therein is in said disk-reading position, and a second position whereat access is provided to a subframe received therein". This recitation is overly limiting because the claim can be easily circumvented by providing that the internal position of the mainframe position the disk held by a subframe therein in a position other than a disk-reading position. Such would be a trivial departure from the claim and clearly enabled by Applicants' specification.

How Error Was Discovered: Subsequent to the issuance of the patent, during approximately the first two months of 1993, Applicants studied the issued patent and attempted to read the patent on a competitor's device. Applicants discussed the matter with Applicants' present Attorneys, around the same time, who opined that claim 5 did not cover the competitor's device. During March of 1993, Applicants forwarded their concerns to Applicants' present Attorneys with information about a changer mechanism manufactured by a competitor which they believed should have been covered by the patent. The Applicants asked Applicants' Attorneys to review the competitor's changer mechanism and their additional concerns to determine if the patent scope covered the competitor's device. When the Attorneys could not apply claim 5 or any of the other claims to the competitor's device, Applicants' came to understand the difficulty caused by the error described above. Applicants, as a result of careful discussion and correspondence, came to their present understanding that claim 5 was narrower than Applicants had realized during prosecution.

How Error Occurred: In June, 1990, applicants sent to prosecuting attorney, Morrison Law Firm, three Japanese patent applications on which to

base an application for a U.S. patent. All of the Japanese patent applications 1-219071, 1-219071, and 1-219073 contained essentially the same disclosure. The drawings were essentially the same as those appearing in the '001 patent and the specification of the Japanese applications described the preferred embodiment described by the '001 patent. The Japanese claims described the preferred embodiment narrowly. Prosecuting attorney drafted American claims from scratch. That is, the limitations placed in the broadest claims were supposed to be sufficient only to distinguish prior art according to American practice. When the application for patent '001 was filed in August 23, 1990, claim 9, which ultimately issued as claim 5, contained the above error. No amendments to claim 9 were made during prosecution. Shortly before the application was filed in August, 1990, in the same month, Applicants' attorneys sent the proposed application to Applicants for review. However, Applicants, at the time of filing, did not fully understand American "peripheral" style of claim drafting and did not appreciate the narrowness of claim 9 at this time.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim: Claim 5 is replaced with new claim 119. The following table shows the differences between claim 5 and claim 119 that are intended to overcome the above defect.

Original clause	Corresponding new clause -claim 119
5. A disk storage and playback device comprising:	
a chassis;	

a plurality of subframes, each of said subframes being adapted to receive a single one of said disks;	
a magazine, nondetachably, carried by said chassis, said magazine being adapted to receive a plurality of said subframes;	
a disk reader adapted to read one of said disks when said disk is in a disk-reading position;	
a main frame adapted to receive a single one of said subframes;	
said mainframe being movably carried by said chassis for movement between a first position	
, whereat a disk carried therein is in said disk-reading position,	[DELETED]
and a second position whereat access is provided to a subframe received therein such that a disk may be inserted therein or removed therefrom;	
disk conveying means for transporting a selected one of said subframes from said magazine to said main frame when said main frame is in said first position; and	

means operative when said main frame is in said first position for separating said main frame and a subframe received therein from a disk received therein, whereby said disk may be read by said disk reader.	
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The only change required to overcome the defect in claim 5 is the deletion of the clause: “, whereat a disk carried therein is in said disk-reading position,” which is the source of the limitation that gave rise to the above error.

CLAIM 7

Claim 7 includes the errors L, M, and N, listed above. The following is a detailed explanation of each of the above errors as they relate to claim 7, and an explanation of how the errors arose.

L. Indefinite recitation of “said mainframe” in claim 7

Claim 7 introduces the element “mainframe” without positively setting it forth prior to its first reference to this element. In addition, there is no antecedent basis for the first recitation of “said mainframe” in claim 7. This makes claim 7 indefinite.

How Error Was Discovered: In reviewing the claims in preparation for filing the parent reissue application, in early 1994, Applicants’ attorneys discovered the above error and notified the client around May, 1994.

How Error Occurred: Claim 7 was originally claim 11 of the application from which the '001 patent issued. In the first office action of the application (07/572,050), the Examiner rejected claim 11 for lack of antecedent basis for "said mainframe". In Applicants' response, Applicants provided instructions to amend claim 11 to overcome this basis of rejection, saying: 'Claim 11, line 8, change "said mainframe" to --a mainframe--' and "'a mainframe" to --said mainframe being--'. The Examiner implemented the second instruction correctly, but changed the wrong occurrence of "said" in line 8 to "a" resulting in lines 7-8 reading "when one of a subframes is received in said mainframe". Thus, the error of lack of antecedent basis was left and a new error introduced. In the next office action, the Examiner allowed claim 11 and neither Applicants, nor the Examiner noticed the error.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim: The above error is corrected by changing the first recitation of "said mainframe" to "a mainframe". See table below.

M. Indefinite recitation of "a subframes" in claim 7

Claim 7 ambiguously and ungrammatically refers to "a subframes" in the clause reciting "n-1 of said subframes being received in said magazine when one of a subframes is received in said mainframe". Where claim 7 recited "a subframes", it should have recited "said subframes", since these elements were earlier introduced in the claim. This makes claim 7 indefinite.

How Error Was Discovered: In reviewing the claims in preparation for filing the parent reissue application, in early 1994, Applicants' attorneys discovered the above error and notified the client around May, 1994.

How Error Occurred: Claim 7 was originally claim 11 of the application from which the '001 patent issued. In the first office action of the application (07/572,050), the Examiner rejected claim 11 for lack of antecedent basis for "said mainframe". In Applicants' response, Applicants provided instructions to amend claim 11 to overcome this basis of rejection, saying: 'Claim 11, line 8, change "said mainframe" to --a mainframe--' and "a mainframe" to --said mainframe being--'. The Examiner implemented the second instruction correctly, but changed the wrong occurrence of "said" in line 8 to "a" resulting in lines 7-8 reading "when one of a subframes is received in said mainframe". Thus, the error of lack of antecedent basis was left and the above new error introduced. In the next office action, the Examiner allowed claim 11 and neither Applicants, nor the Examiner noticed the error.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim: The above error is corrected by changing the recitation of "a subframes" to "said subframes". See table below.

N. In claim 7, mainframe moved to disk-reading position is overly limiting

Claim 7 requires: "said mainframe ... movably carried ... between a first position, whereat a disk carried therein is in said disk reading position". This recitation is overly limiting because the claim can be easily

circumvented by providing that the internal position of the mainframe position the disk held by a subframe therein in a position other than a disk-reading position. Such would be a trivial departure from the claim and clearly enabled by Applicants' specification. Also, precisely-interpreted, this recitation is misdescriptive of the preferred embodiment since, in that embodiment, the disk must be moved in order to engage the disk on the disk-reader. According to recitation elsewhere in the claim, the disk is read in the disk-reading position, so the recitation: "movably carried by said chassis for movement between a first position, whereat a disk carried therein is in said disk-reading position ..." is not precisely consistent with the disclosure.

How Error Was Discovered: Subsequent to the issuance of the patent, during approximately the first two months of 1993, Applicants studied the issued patent and attempted to read the patent on a competitor's device. Applicants discussed the matter with Applicants' present Attorneys, around the same time, who opined that claim 7 did not cover the competitor's device. During March of 1993, Applicants forwarded their concerns to Applicants' present Attorneys with information about a changer mechanism manufactured by a competitor which they believed should have been covered by the patent. The Applicants asked Applicants' Attorneys to review the competitor's changer mechanism and their additional concerns to determine if the patent scope covered the competitor's device. When the Attorneys could not apply claim 7 or any of the other claims to the competitor's device, Applicants' came to understand the difficulty caused by the error described above. Applicants, as a result of careful discussion and correspondence, came to their present understanding that claim 7 was narrower than Applicants had realized during prosecution.

How Error Occurred: In June, 1990, applicants sent to prosecuting attorney, Morrison Law Firm, three Japanese patent applications on which to base an application for a U.S. patent. All of the Japanese patent applications 1-219071, 1-219071, and 1-219073 contained essentially the same disclosure. The drawings were essentially the same as those appearing in the '001 patent and the specification of the Japanese applications described the preferred embodiment described by the '001 patent. The Japanese claims described the preferred embodiment narrowly. Prosecuting attorney drafted American claims from scratch. That is, the limitations placed in the broadest claims were supposed to be sufficient only to distinguish prior art according to American practice. When the application for patent '001 was filed in August 23, 1990, claim 11, which ultimately issued as claim 7, contained the above error. Amendments to claim 11 during prosecution did not affect the error in scope discussed above. Shortly before the application was filed in August, 1990, in the same month, Applicants' attorneys sent the proposed application to Applicants for review. However, Applicants, at the time of filing, did not fully understand American "peripheral" style of claim drafting and did not appreciate the narrowness of claim 11 at this time.

The above errors arose without deceptive intent.

How reissue overcomes above defect in claim: Claim 7 is replaced with new claim 120. The following table shows the differences between claim 7 and claim 120 that are intended to overcome all of the defects in claim 7.

Original clause	Corresponding new clause -claim 120
7. A disk storage and playback device comprising:	
a chassis;	

an n quantity of subframes, each of said subframes being adapted to receive a single disk;	
a magazine, nondetachable, carried by said chassis, said magazine being adapted to receive n quantity of said subframes;	
	a mainframe;
n-1 of said subframes being received in said magazine when one of	
	said subframes
is received in said mainframe;	
a disk reader adapted to read one of said disks when said disk is in a disk-reading position;	
said mainframe being adapted to receive a single one of said subframes, said mainframe being movably carried by said chassis for movement between a first position	
	at least partly inside said disk storage and playback device;
' whereat a disk carried therein is in said disk-reading position,	[DELETED]

and a second position whereat access is provided to a subframe received therein such that a disk may be inserted therein;	
	means for moving said disk from said mainframe in said first position to said disk-reading position;
and disk conveying means for transporting a selected one of said subframes from said magazine to said main frame when said main frame is in said first position.	

Claim 120 differs from claim 7 in that the requirement that the internal position to which the mainframe is moved coincide with the disk-reading position is removed by the deletion of the clause: "whereat a disk carried therein is in said disk-reading position,". To interconnect the first position with other claim elements, claim 120 states that the first position is "at least partly inside said disk storage and playback device" and it includes "means for moving said disk from said mainframe in said first position to said disk-reading position". Errors L and M are corrected by changing the first recitation of "said mainframe" to "a mainframe" and by changing the recitation of "a subframes" to "said subframes", respectively.

Power of Attorney: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

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I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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